

20 SEP 1966

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0617

19 September 1966

MEMORANDUM FOR: Director, National Estimates

SUBJECT: Submarine Characteristics Tables for
Section III - NIPP 66

1. The following attached tables have been revised by the SIC Submarine Working Group and approved by the SIC on 16 September 1966:

Table III D 3, General Purpose Submarines
Table III D 17, Torpedoes

2. We recommend no change be made to the following tables:

Table III D 18, ASW Depth Charges and Bombs
Table III D 19, ASW Ahead Thrown Weapons



25X1A

Executive Secretary

Attachment:

Tables for Section III - NIPP 66

Distribution:

- 12 - ONE w/att.
- 1 - Each SIC member w/att.
- 1 - JAEIC & GMAIC w/att.
- 1 - OCI w/att.
- 1 - ORR w/att.

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SOVIET GENERAL PURPOSE SUBMARINES
ESTIMATED CHARACTERISTICS AND PERFORMANCE

	DIMENSIONS		DEPTH		SPEED		ARMAMENT		PATROL CAPABILITIES _d		
	Length Beam (feet)	Displacement (tons) Surfaced/ Submerged	Normal Operating Depth Limit (Feet) _a	Collapse Depth (Feet)	Maximum Surfaced	Maximum Snorkel	Submerged Speed Endurance (N.M.)	Torpedos or Mines	Days on Station	Radius (N.M.) _b	Patrol Duration (Days) _c
ATTACK Nuclear SSN											
"N"	360/30	4600/5300	900	1300	16	Ukn	Max. 22/NA	32/48	0 10 20	8600 7200 5800	60 60 60
DIESEL SS											
"F"	300/26	2100/2500	900	1400	18	9.5	Max. 17.5/13 Econ. 4/200	26/52	0 10 20	4300 3600 2900	60 60 60
"Z"	295/26	2100/2500	750	1100	18	7	Max. 15/15 Econ. 3.5/175	26/52	0 10 20	4300 3600 2900	60 60 60
"R"	249/21	1055/1355	656	1000	18	9	Max. 15.5/12 Econ. 3.5/175	14/28	0 10 20	2900 2200 1400	40 40 40
"W"	249/21	1055/1355	656	1000	18.5	6.8	Max. 13.5/... Econ. 3.5/175*	14/28	0 10 20	2900 2200 1400	40 40 40
"Q"	185/18	420/510	450	725	16	8	Max. 16/16 Econ. 2.5/125	8/16	Coastal or Inland Sea		
"M-V"	165/16	350/430	300	400	15	NA	Max. 8/10 Econ. 4/40	6/12	Coastal or Inland Sea		

*The Navy member believes that the listed economical speed and endurance for the W-Class submarine is too high. He believes that the speed should be from 2.5 to 3 knots and the endurance from 125 to 150 miles.

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SOVIET GENERAL PURPOSE
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	DIMENSIONS		DEPTH		SPEED			ARMAMENT		PATROL CAPABILITIES _d		
	Length Beam (Feet)	Displacement (tons) Surfaced/ Submerged	Normal Operating Depth Limit (Feet) _a	Collapse Depth (Feet)	Maximum Surfaced	Maximum Snorkel	Submerged Speed Endurance (N.M.)	Tor- pe- do	Mis- siles	Days on Station	Radius (N.M.) _b	Patrol Dura- tion (Days) _c
<u>Cruise Missile</u>												
Nuclear SSGN												
"E-I"	385/30	4,900 5,900	900	1,300	20	. .	Max. 20/NA	32	6	0 10 20	8600 7200 5800	60 60 60
"E-II"	398/30	5,200 6,200	1,000	1,500	20	. .	Max. 20/NA	32	8	0 10 20	8600 7200 5800	60 60 60
Diesel SSG												
"J"	280/33	2,700 3,500	1,000	1,500	16	9.0	Max. 16/12 Econ. 3/150	26	4	0 10 20	4300 3600 2900	60 60 60
LONG BIN	275/21	1,200 1,500	656	1,000	18	5.5	Max. 12/12 Econ. 2.5/125	12	4	0 10 20	2900 2200 1400	40 40 40
TWIN CYLINDER	249/21	1,100 1,400	656	1,000	18	5.5	Max. 12/12 Econ. 2.5/125	14	2	0 10 20	2900 2200 1400	40 40 40

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FOOTNOTES

- a. Normal operating depth limit is defined as the depth to which a submarine may proceed an unlimited number of times. During emergencies, a submarine may exceed this depth to an indeterminate point approaching collapse depth and still survive.
- b. Patrol radius is calculated assuming a speed of advance during transit of six knots for diesel submarines and twelve knots for nuclear submarines as has been determined from extensive evaluation of all available information.
- c. Patrol duration is defined as the normal length of time that a submarine can remain at sea without replenishment under combat conditions and is estimated on the basis of personnel endurance, general habitability and the consumption of food, spare parts, and other consumables including fuel.
- d. Selected distances from Soviet ports in nautical miles:

From-To	Iceland	North West British Isles	Halifax	Bermuda or New York	Norfolk	Gibraltar	Panama
Kola Inlet	1,500	1,600	3,350	3,950	4,000	2,950	5,600
From-To	Seattle	Honolulu	Manila	Los Angeles	San Francisco	Singapore	Panama
Petropavlovsk	3,200	2,750	3,100	3,600	3,400	4,200	6,500
Vladivostok	4,400	3,700	1,900	5,000	4,550	3,000	7,750

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TABLE IIID 17
 SOVIET GENERAL PURPOSE NAVAL WEAPONS
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 OF SOVIET TORPEDOES

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Designation	IOC	Diameter (inches)	Length (feet)	Propulsion	Exploder	Range/Speed (Yards)/(Kts)	Guidance	Remarks
<u>Antisurface Ship Torpedoes 1/</u>								
E 40-63	1965	15.75	14.75	Electric Silver-zinc batteries	Impact/Inertia Passive acoustic	15,000/28	Passive acoustic homer @ 25 KC Azimuth only Pattern running	Anti-escort torpedo. Has horizontal acquisition range of 600 yds against a 10 db target while running at 20 feet.
<u>Antisubmarine Torpedoes 2/</u>								
A-80A	1962	21	25.6	Electric Lead-Acid batteries	Impact/Inertia Magnetic Induc- tion	13,000/23.3	Passive acoustic homer @ 25 KC	For ASW use only. Maximum depth 750 feet. Turn radius 90 yds. Horizontal acquisition range 1,200 yds. against 21 db target.
E 40-63A	1966	15.75	14.75	Electric Silver-zinc batteries	Impact/Inertia Active magnetic induction (verti- cal & horizontal)	15,000/23.3	Passive Acoustic homer @ 24.8 KC Azimuth & Depth.	Antisubmarine torpedo. Maximum depth 1000 feet. Horizontal acquisition range 1200 yds against a 21 db target.
E 40-63A Improved	67-68	15.75	15	Electric Silver-zinc	Impact/Magnetic	Passive 15,000/24 Active 12,000/35	Active/Passive Acoustic	For use from helicopters and low flying aircraft (50 to 6,000 feet high-altitude (15,000 to 20,000 feet), highspeed aircraft (parachute retarded), and "Petya" and "Mirka" Class PCEs, "S.O.-1" Class SC, "Poti" Class PCs, and probably all nuclear submarines.
Follow-On ASW Torpedo	1968-70	21	Unknown	Electric Silver-zinc	Impact/Magnetic	15,000/35	Active/Passive Acoustic	Submarine-launched. Depth capability, 1,500 feet. HE version 600-lb. warhead. Nuclear version without homing.

1/ In addition to the torpedoes listed on this table, steam and electric torpedoes of World War II vintage are still available for use against surface ships.

2/ All antisubmarine torpedoes have secondary antisurface ship capability.

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